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On Some Genera and Families of North American Diplopods

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In the course of the compilation of a checklist of North American diplopods by the authors, it has been found necessary to redefine or establish as new certain genera and families which are diagnosed in the present paper.

Order POLYDESMIDA

Family NEARCTODESMIDAE, new

POLYDESMIDAE Cook, 1904, (ad part. *Polydesmus cerasinus* Wood), Harriman Alaska Expect., vol. 8, pt. 1, p. 61.

POLYDESMIDAE Silvestri, 1910 (ad part. *Nearctodesmus),* Zool. Anzeiger, vol. 35 p. 364.

PERIDONTODESMIDAE Attems, 1940, (ad part. *Nearctodesmus),* Das Tierreich, Lief. 70, p. 458.

POLYDESMIDAE Chamberlin, 1949, (ad part. *Ergodesmus, Kepolydesmus* and *Nearctodesmus),* Journ. Wash. Acad. Sci., vol. 39, no. 3, p. 94.

It seems necessary to remove the genera *Ergodesmus, Kepolydesmus,* and *Nearctodesmus* from the Polydesmidae because they lack the vesicular enlargement in the seminal canal of the male gonopods characteristic of that family as now defined. On the other hand, the complete lack of deep incisions producing prominent teeth on lateral and caudal margins of the tergites characteristic of and giving name to the Peridontodesmidae prohibits their inclusion in that Middle American family. The peculiar setae present on the margins of the keels in the Peridontodesmidae are wholly lacking in the present family as are the transverse series of setigerous tubercles. The elevated areas or large tubercles are less numerous than in the Polydesmidae. The repugnatorial pores are normal in distribution.

In the structure of the gonopods the Nearctodesmidae most suggest the Peridontodesmidae. The usual coxal hook is present. The telopodite is

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geniculate between the prefemoral and femoral sections and presents two long, distally hooked, processes arising from the distal end of the prefemur.

Family **POLYDESMIDAE**

Genus *Utadesmus*, new

Body in both sexes composed of **19** segments in addition to the head. Tergites with three transverse series of swollen areas, with caudal margins serrate. Pores normal in distribution, dorsal in position and opening in swellings on caudolateral corners of the keels. Preanal scale truncate distally. Antennae strongly clavate, the three terminal articles being much enlarged.

In the male the legs are without special modifications and the sternites are without special processes.

The gonopods of the male are simple; coxae large, globose; prefemoral division small, slightly enlarged, setose, without process; femora long, nearly straight, unbranched and without setae, terminating distally in a flattened, somewhat spatulate projection directed mesad and carrying the seminal groove and in a small ectal hook and an elongate, acuminate and unbranched tarsal process.

The body is well pigmented, the color being the usual earth-brown of small millipeds, with the underside somewhat paler.

Generotype: *Utadesmus henriensis' (Chamberlin).*

Utadesmus may be separated from the other two 19-segmented polydesmid genera now known in North America by means of the following key:

1. Tergites arched, with **4-6** transverse rows of bead-like, setiferous tubercles; male gonopods with a moveable, secondary tarsal branch *Scytonotus*.
   Tergites nearly flat, with 3 transverse rows of low quadrate areas; male gonopods without an articulated, secondary tarsal branch **2**

2. Male gonopods simple (long and slender) with seminal groove opening through a flat lobe at base of tibiotarsus *Utadesmus*.
   Male gonopods usually complex, with various projections and tufts of hair on the telopodite; seminal groove opening through a pulvillar pad on the femoral division
   Brachydesmus.

***Utadesmus henriensis* (Chamberlin)**

Brachydesmus henriensis Chamberlin, **1930,** Pan-Pac. Ent., vol. 4, no. 3, p. 118, with fig.

The type locality of this species is the Henry Mountains in southern Utah. The species has not, as yet, been taken elsewhere.

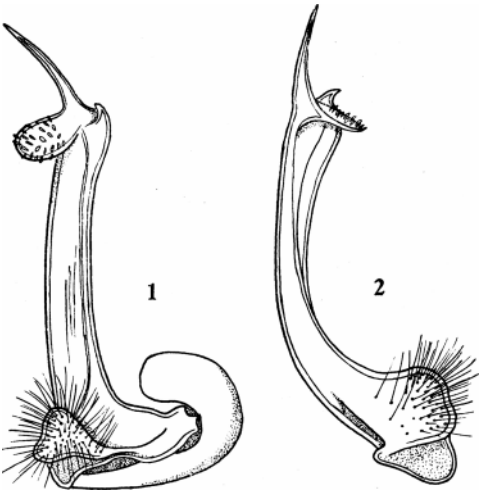
Utadesmus hoffi, new species

Figures 1, 2

Sharing the characters of the genus as above given with *U. henriensis* (Chamberlin) and agreeing essentially with the description of that species.

Male gonopods similar to those of *henriensis,* but differing in the following particulars: in *hoffi* the femur is nearly straight and parallel sided, and the tibiotarsus is also straight and evenly acuminate; in *henriensis* the femur is slightly undulate, and the tibiotarsus is distinctly enlarged and lobed at the middle of its length; the swollen prefemoral portion is proportionately somewhat larger in *henriensis* than in *hoffi.*

Length, about 10 mm.



***Utadesmus hoffi,* sp. n.**
Fig. 1. Gonopod of male, subectal view.
Fig. 2. The same, submesal view.

Locality: New Mexico, about 10 miles northeast of Albuquerque, Santa Fe-Sandoval counties. A male and female taken October **22, 1948,** by C. Clayton Hoff. These types will be deposited in the U. S. National Museum.

Family XYSTODESMIDAE

Genus *Thrinaxoria,* new

A genus related to *Epeloria* and *Dicellarius.* In it the pore formula is normal, with the pores opening dorsolaterad in side of a pronounced swelling. Tarsal claws of the male slender, evenly curved. Third tarsal joint of legs longer than first and second combined, and the tibia more than twice the length of the femur. No processes between third or fourth pairs of legs of the male. Sternites without lobes or spines. Posterior coxae spined. Coxae of last pair of legs widely separated. Dorsum well arched, finely granular and with three rows of small but definite tubercles across the metatergites. Male gonopods with swollen setose prefemoral portion; the femur straight, upright. and setose, distally furcate into two long, slender and well-separated but parallel branches; there is a small, spiniform prefemoral process.

Generotype: *Fontaria lampra* Chamberlin.

This genus is associated structurally and geographically with *Nannaria, Epeloria* and *Dicellarius.* The male gonopods suggest those of *Zinaria,* but: in other respects close relationship is not indicated.

Thrinaxoria lampra (Chamberlin)

Fontaria lampra Chamberlin, 1918, Ann. Ent. Soc. Amer., vol. 11, p. 371-372. *Zinaria aberrans* Chamberlin, 1942, Bull. Univ. Utah, Biol. Ser., vol. 6, no. 8, p. 4,. fig. 7.

Type locality: Creston, Louisiana.

This species has also been recorded from Shreveport, Louisiana, and. Tuscaloosa, Alabama.

Genus *Cibularia,* new

A genus agreeing with *Nannaria* in having the body small and slender in having the repugnatorial pores lateral, sublateral, or inferior; the tergites smooth; the dorsum but slightly arched; the coxae of legs without spines; the femoral spines well developed; and the tarsal claws of the anterior legs of the male crassate, blunt and nearly straight.

The gonopods of the male are large, with a small, slightly bulbous, prefemoral division, a long, evenly tapering, femur, which is usually straight or but slightly curved, with the prefemur bearing a well developed, spiniform process. Female vulva with receptacle much reduced, forming a small flat shield proximad of the valves; the latter basally setose.

Generotype: *Fontaria tuobita* Chamberlin.

This genus differs from *Nannaria* in lacking spines at the base of the legs on the caudal edge of each sternite and in having a narrow yellow stripe across the caudal edge of the tergites; also the dorsum is appreciably more highly arched. These differences are correlated with the isolation geographically of the type species in New Mexico from *Nannaria* of the Appalachian region.

Cibularia may be distinguished from the related genera above mentioned by means of the following key:

1. Sternite with two conical knobs between fourth pair of legs in the male; terminal end of male gonopods not deeply split, when bifid the two branches being far shorter than the basal part **2**

   Sternite without paired conical processes between legs of the fourth pair in the male; distal end of male gonopods split, the branches subequal in length to the basal part **3**

2. Sternites with a small spine on the caudal margin at base of legs of second pair; dorsum not crossbanded *Nannaria* Chamberlin.

   Sternites without such spine at base of second legs of segments; dorsum crossbanded *Cibularia,* gen. nov.

3. Dorsum with three transverse rows of small tubercles; third tarsal joint of legs longer than the two preceding combined; coxae spined *Thrinaxoria,* gen. nov.
   Dorsum perfectly smooth, no tubercles being present; last joint of legs much shorter than the two preceding taken together; coxae not spined **4**

4. Telopodite of male gonopods with terminal divisions flat, laminate, parallel and closely applied to each other; prefemoral process of gonopod also laminate *Dicellarius* Chamberlin.

   Terminal divisions of telopodite of male gonopod more or less rounded, slender, parallel or not but not closely applied to each other; prefemoral process of gonopod spiniform *Epeloria* Chamberlin.

Cibularia tuobita **(Chamberlin)**

Fontaria tuobita Chamberlin, **1910,** Ann. Ent. Soc. Amer., vol. **3,** no. **4,** p. **243,** fig. **7, 8,** pl. **35.**

Nannaria ursa Chamberlin, **1938,** Proc. Biol. Soc. Washington, **vol. 51, p. 207.**

This species, described originally from the Sacramento Mountains at Cloudcroft, Otero County, New Mexico, has also more recently been taken in Lincoln County in the same state.

Order CHORDEUMIDA

Family BACTROPIDAE

The genus *Bactropus* of Cook and Collins, heretofore included in the Cleidogonidae, is here made the type of a new family differing from the Cleidogonidae *sens. str.* in lacking a promentum in the gnathochilarium, i. e. in having the mentum undivided, and in the form of the second legs of the seventh segment in the male. These appendages are simply clavate, with the second joint slender instead of being distinctly hamate and having the second joint notably robust.

Order JULIDA

Family PARAIULIDAE

Genus *Uroblaniulus* Attems

Uroblaniulus Attems, 1899, Mitth. Naturh. Mus. Hamburg, vol, 17, p. 113.
Saiulus Chamberlin, 1940, Bull. Univ. Utah, Biol. Ser., vol. 5, no. 7, p. 12.

Among specimens of myriopods immigrant at Hamburg, Germany, and reported upon by Graf Attems in the publication above cited in an article entitled "Neue durch den Schiffsverkehr in Hamburg eingeschleppte Myriopoden" was a single male diplopod taken among ferns imported from Vermont, U. S. A. Attems recognized a relationship of this milliped to the European *Blaniulus,* but placed it in a new genus *Uroblaniulus* and, subsequently, in a distinct family Uroblaniulidae.

The form described by Attems until now has not been subsequently recognized by any other worker, although described as from an area of which the myriopod fauna is fairly well known. In seeking to solve this riddle the presence of a conspicuous curved cauda, to which the name *Uroblaniulus* refers, suggested to us the possibility that Attems had a specimen of a *Saiulus,* the only milliped known from Vermont having a curved or uncate cauda of the kind described for *Uroblaniulus.* In exploring this possibility it has been found that, while the description of the type, *Uroblaniulus megalodus,* does not agree with the adult of known species of *Saiulus,* it does agree well with the stage of development next preceding the last or maturing moult, e. g. in the distinctive form of the first legs of the male and in the structure of the gonopods of that stage. We believe there can be no room for doubt that Attems' type is the not quite mature male of *Saiulus canadensis* (Newport), a common Vermont species. Although thus based upon an immature stage, not recognized by Attems as such, *Uroblaniulus* as a generic name must take

precedence over *Saiulus,* established in 1940 with *S. setifer* Chamberlin as its type. The family name Uroblaniulidae, however, falls as a synonym to Paraiulidae.

Order SPIROBOLIDA

Family ATOPETHOLIDAE

Genus *Orthichelus,* new

A genus closely related to *Onychelus* Cook, from which it is separated primarily on the basis of differences in the posterior gonopods of the male. In these the telopodite is attached to the side of the basal segment as in *Onychelus,* but instead of the falcate, distally notched blade of the latter, it is a simple, straight, distally acuminate blade without teeth or lateral laminae or lobes present in *Onychelus.*

Generotype: *Onychelus phanus* Chamberlin.

In addition to *O. phanus, O. nigrescens* (Chamberlin) and *O. michelbacheri* (Verhoeff) conform to this genus.

Order CAMBALIDA

Family CHOCTELLIDAE, new

This family is established for the notably divergent genus *Choctella* Chamberlin, heretofore included in the family Cambalidae. Superficially *Choctella* differs from members of the Cambalidae in its much larger, more robust, form. The new family here established for it is distinguished especially in having only the anterior gonopods developed and in having these sunk, or partly sunk, in a pocket instead of being fully exposed and not at all insunk. Another difference is the entire absence of an anal scale. The presence of a pair of peculiar glands in the gnathochilarium may also prove to be of family significance.

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